IN THE CLAIMS:

1. (Original) An intermediate network device for use in a computer network having a plurality of entities configured to issue requests to reserve network resources for use by traffic flows, the reservation requests specifying one or more flow parameters, the intermediate network device comprising:

a traffic scheduler having one or more network resources for use in forwarding network traffic received at the device at different rates;

a classification engine configured to identify network messages belonging to respective traffic flows based upon predefined criteria;

a resource reservation engine in communicating relationship with the traffic scheduler and the classification engine, the resource reservation engine including a flow analyzer; and

one or more sets of predefined heuristics that are accessible by the flow analyzer, wherein

the flow analyzer applies the one or more sets of predefined heuristics to the one or more flow parameters specified in the reservation requests, and

in response to the application of the one or more sets of predefined heuristics, the flow analyzer selects a queue and/or a queue servicing algorithm for assignment to the traffic flow corresponding to the reservation request.

2. (Original) The intermediate network device of claim 1 wherein

the classification engine is directed to identify network messages belonging to the traffic flow, and

the traffic scheduler is directed to place network messages identified as belonging to the traffic flow in the selected queue.

3. (Original) The intermediate network device of claim 1 wherein

the selected queue is one of a priority queue (PQ) and a reserved queue, and

the PQ is drained before any other queues.

4. (Original) The intermediate network device of claim 3 wherein

a first set of heuristics is provided for determining whether the respective traffic flows carry real-time voice information, and

traffic flows that are determined to carry real-time voice information are assigned to the PQ.

5. (Original) The intermediate network device of claim 4 wherein the flow parameters include one or more of an average data rate, a peak data rate and a token bucket rate.

6. (Original) The intermediate network device of claim 4 wherein

the resource reservation engine utilizes the Resource reSerVation Protocol (RSVP) specification standard, and

the flow parameters are located in a RSVP Reservation (Resv) message received by the device.

7. (Original) The intermediate network device of claim 6 wherein the flow parameters include one or more of a token bucket rate (r) value, a token bucket size (b) value and a peak data rate (p) value.

8. (Original) The intermediate network device of claim 7 wherein a first set of predefined heuristics is given by the following equation:

$$(r \le r') \text{ AND } (b \le b') \text{ AND } \frac{p}{r} \le p\_to\_r'$$

where,

r' is a programmable token bucket rate constant, b' is a programmable token bucket size constant, and p_to_r' is a ratio of peak data rate to token bucket rate constant.

9. (Original) The intermediate network device of claim 8 wherein r' is approximately 12288 bytes/second, b' is approximately 592 bytes/second and p_to_r' is approximately 110 percent.

10. (Original) The intermediate network device of claim 4 wherein

a reserved queue is selected for each traffic flow that does not satisfy the first set of heuristics, and

a Weight Fair Queuing (WFQ) queue servicing algorithm is applied to the reserved queues.

11. (Original) The intermediate network device of claim 2 wherein the flow analyzer, in response to the application of the one or more sets of heuristics, associates a selected Per-Hop Behavior (PHB) with the traffic flow corresponding to the reservation request.

12. (Original) The intermediate network device of claim 1 wherein

the resource reservation engine utilizes the Resource reSerVation Protocol (RSVP) specification standard, and

the flow parameters are located in a RSVP Reservation (Resv) message received by the device.

13. (Original) In a computer network having a plurality of entities interconnected by a plurality of intermediate network devices having one or more resources for use in forwarding network traffic flows, a method for assigning queues and/or queue servicing algorithms to the traffic flows, the method comprising the steps of:

receiving a reservation request message specifying one or more flow parameters and a given traffic flow;

applying one or more sets of heuristics to the flow parameters of the received reservation request message; and

selecting a queue and/or a queue servicing algorithm for use with the given traffic flow based on the application of the one or more sets of heuristics.

14. (Original) The method of claim 13 wherein a first set of heuristics is given by the following equation:

$$(r \le r') \text{ AND } (b \le b') \text{ AND } \frac{p}{r} \le p\_to\_r'$$

where,

r is a token bucket rate value,

r' is a programmable token bucket rate constant,

b is a token bucket size value,

b' is a programmable token bucket size constant, and

p_to_r' is a ratio of peak data rate to token bucket rate constant.

15. (Original) The method of claim 14 wherein r' is approximately 12288 bytes/second, b' is approximately 592 bytes/second and p_to_r' is approximately 110 percent.

16. (Original) The method of claim 13 wherein

a first set of heuristics is provided for determining whether the respective traffic flows carry real-time voice information, and

a given traffic flow that is determined to carry real-time voice information, based on the first set of heuristics, is assigned to a priority queue (PQ) that is drained before all other queues.

17. (Original) The method of claim 14 wherein each traffic flow that is determined to carry other than real-time voice information is assigned to a selected reserved queue.

18. (Original) The method of claim 17 further comprising the step of applying a Weight Fair Queuing (WFQ) queue servicing algorithm to the reserved queues.

19. (Original) The method of claim 13 wherein the flow parameters include one or more of an average data rate, a peak data rate and a token bucket rate.

20. (Original) The method of claim 13 wherein the reservation request message corresponds to a Reservation (Resv) message as provided in the Resource reSerVation Protocol (RSVP) specification standard.

21. (Original) The method of claim 20 wherein the flow parameters include one or more of a token bucket rate (r) value, a token bucket size (b) value and a peak data rate (p) value.

22. (Previously Presented) An intermediate network device for use in a computer network having a plurality of entities configured to issue requests to reserve network resources for use by traffic flows, the reservation requests specifying one or more flow parameters, the intermediate network device comprising:

means for receiving a reservation request message specifying one or more flow parameters and a given traffic flow;

means for applying one or more sets of heuristics to the flow parameters of the received reservation request message; and

means for selecting a queue and/or a queue servicing algorithm for use with the given traffic flow based on the application of the one or more sets of heuristics.

23. (Previously Presented) The intermediate network device of claim 22, further comprising:

means for providing a set of heuristics to determine whether the respective traffic flows carry real-time voice information, and

means for assigning a traffic flow that is determined to carry real-time voice information, based on the set of heuristics, to a priority queue (PQ) that is drained before all other queues.